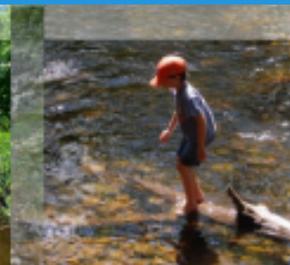
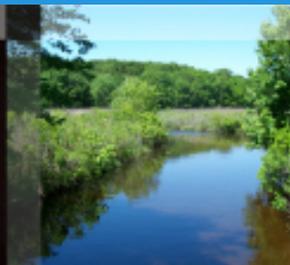




Connecticut Department of Energy and Environmental Protection



Connecticut Department of
**ENERGY &
ENVIRONMENTAL
PROTECTION**

Wrestling with Wastewater

Or:

How can we have a problem if I
can't see it or smell it?

Old Lyme WPCA Meeting

October 30, 2014

Presented by Dennis Greci, P.E.

Supervising Sanitary Engineer, CT DEEP



Connecticut Department of Energy and Environmental Protection

Basic Concepts

- Everyone wants to live in a clean environment
- Everyone wants to do the right thing, as long as:
 - It doesn't cost them too much, and
 - Everyone else is held to the same standard
- Everyone wants to be treated fairly, or better.



What is Pollution?

- The Connecticut General Statutes (CGS Section 22a-423) define pollution as
 - “...the contamination or rendering unclean or impure or prejudicial to public health of any waters of the state by reason of any wastes or other material discharged or deposited therein by any public or private sewer or otherwise so as directly or indirectly to come in contact with any waters...”

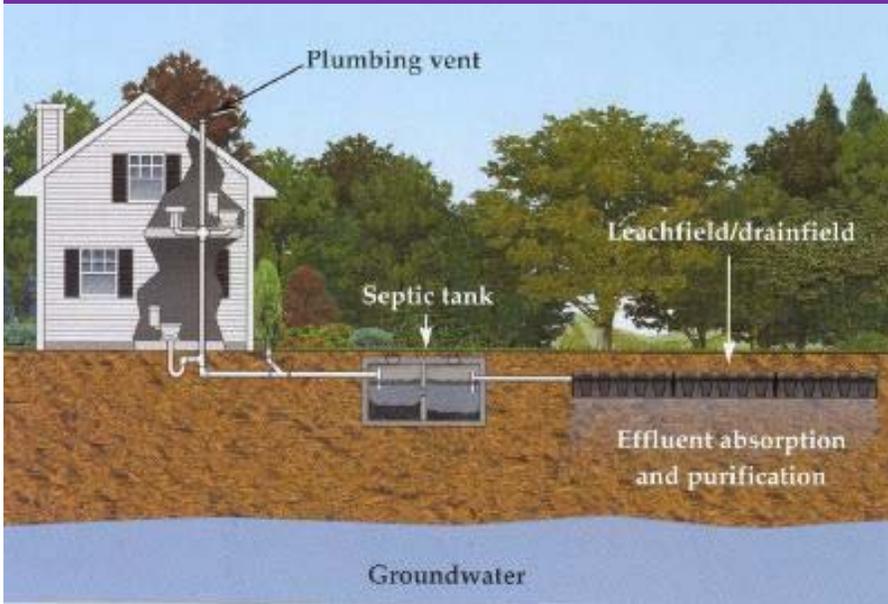


How is Pollution interpreted?

- The Public Health Code defines the minimum criteria for a subsurface sewage disposal system (septic system) which will protect public health and the environment
- Most older systems (especially around lakes or on the shoreline) don't meet the requirements of the current health code.
- If the systems are not code compliant, then public health and the environment may be at risk.



What's the health code require?

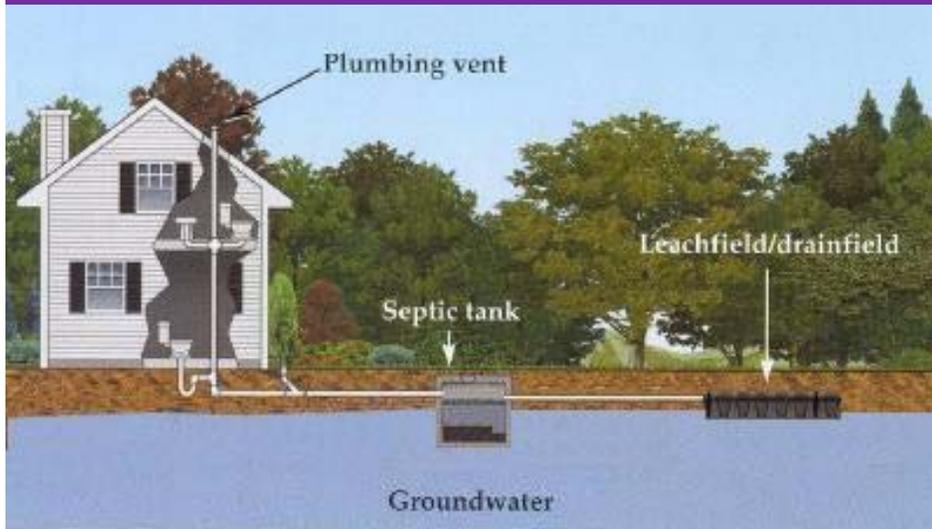


- A properly sized septic tank (minimum 1,000 gallons, larger for special criteria) with two compartments and proper baffling.
- Adequate leaching area to treat the wastewater.

- Adequate depth below the system to groundwater or impermeable surface to allow for reduction of pathogens.
- Adequate separating distances from water supply wells (75'), watercourses, structures, property lines, etc.



What we commonly find:



- Septic tanks of varying sizes (as small as 250 gallons, often with a substantial percentage less than 1,000 gallons).
- Leaching systems that are too small or non-existent (cesspools).
- Leaching systems installed too close to the groundwater or other impermeable layer.
- Leaching systems with inadequate separating distances from sensitive resources, such as surface waters and wells



Are lot size and density factors?



- Small lots (less than $\frac{1}{4}$ acre) pose significant challenges in siting septic systems.

- When a significant number of small lots are in a neighborhood, even the health code may be insufficient to protect health and the environment (DPH Circular Letter 2000-01)
- Nitrogen analysis recommended by DPH for density of greater than 3 bedrooms per $\frac{1}{2}$ acre.



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Basic Concepts

- Each of the preceding deficiencies diminishes the ability of the septic system to perform its function; that is, to renovate wastewater to a quality that can be safely discharged back into the environment
- When a number of properties with similar deficiencies exists in a neighborhood, “...a community pollution problem exists, or... can reasonably be anticipated in the future...” (CGS 22a-428)



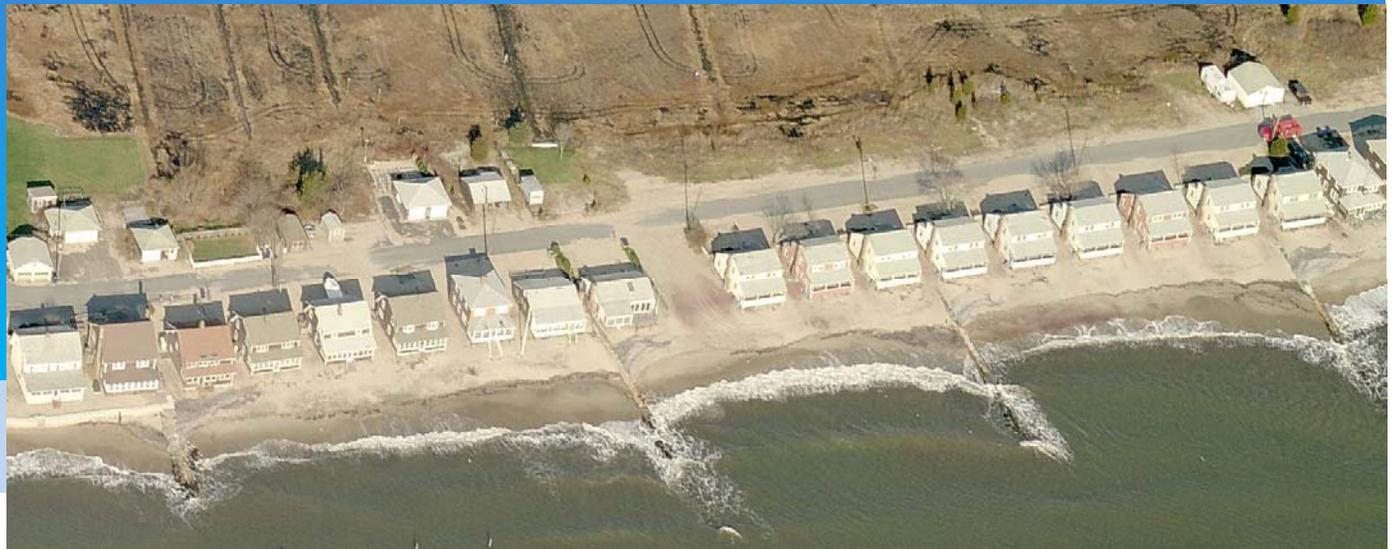
Is there scientific evidence to prove a problem exists?

- Not always. The science went into developing the public health code, which tells us what the minimums need to be.
- Wastewater studies do a limited amount of groundwater and surface water sampling.
- The sampling data is not, by itself, used to validate or repudiate an evaluation of a study area. It is one of several components which, when taken as a whole, are used to reach conclusions about the status of an area



Why can't we just fix the problems?

- If the problem is with the installation (small septic tank, inadequate leaching area) then an onsite repair may be possible.
- If the problem is with the site (inadequate land, unsuitable soils, high groundwater) a different approach is necessary.
- Sometimes the best approach is to solve the problem with a community solution, not an individual onsite solution.



Connecticut

What is a “community solution”?

- A community solution is one where the municipality takes responsibility for the implementation of the solution, either through contracts or through management:
 - Community sewerage system: Conveying the wastewater from multiple lots to a common point for treatment and discharge
 - Decentralized management district: Requiring the upgrade of individual systems to a pre-determined standards, through a combination of conventional septic systems and alternative technology



Assessing the problem

- The evaluation of the severity and extent of a community pollution problem is usually established through an engineering report (also called a facilities plan).
- The Town of Old Lyme is currently developing such a document. Preliminary drafts have been prepared by the town's consultant (Woodard & Curran) and are under review by DEEP.



Seasonality: Does it matter?

- At first glance, most people would expect that a home occupied for only a short time would be less of a pollution source.
- However, septic systems are a biological process. It typically takes 4-6 weeks to develop a mature biomat in a leaching system.
- This means that, during that period, the wastewater discharged into a leaching system is not receiving adequate treatment.



Status of the Engineering Report

- The DEEP received copies of a revised draft engineering report late Friday, October 17th.
- The draft report is currently being reviewed by staff. We anticipate that our comments will require some changes to the draft.



Enforcement Action?

- The question has been raised as to whether the town will be placed under a state order to build sewers.
- An order would require the town to implement the recommendations of an approvable engineering report.
- At this time, the report is still under review by the DEEP. We anticipate that an order will be issued once the review comments have been satisfactorily addressed.



Questions?



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Background

- “rendering unclean or impure” means any alteration of the physical, chemical or biological properties of any of the waters of the state, including, but not limited to, change in odor, color, turbidity or taste;
- “community pollution problem” means the existence of pollution which, in the sole discretion of the commissioner, can best be abated by the action of a municipality;
- **Sec. 22a-428. (Formerly Sec. 25-54g). Orders to municipalities to abate pollution.** If the commissioner finds that any municipality is causing pollution of the waters of the state, or that a community pollution problem exists, or that pollution by a municipality or a community pollution problem can reasonably be anticipated in the future, he may issue to the municipality an order to abate pollution... If a community pollution problem exists in, or if pollution is caused by, a municipality geographically located all or partly within the territorial limits of another municipality, the commissioner may, after giving due regard to regional factors, determine which municipality shall be ordered to abate the pollution or may, after giving due regard to regional factors, issue an order to both of such municipalities jointly to provide the facilities necessary to abate the pollution.

